

\*\*\*\* SAFETY DATA SHEET \*\*\*\*

Creation Date 30-May-2017

Revision Date 27-Apr-2022

Revision Number 3

Product name : TANBead Nucleic Acid Extraction Kit

Reference No.	Description
61EA46/M61EA46/W61EA46	OptiPure Blood DNA Auto Plate
61ES46/M61ES46/W61ES66	OptiPure Blood DNA Auto Tube

1. Identification of substance

Production details

Trade name : Lysis Buffer

Manufacturer/Supplier :

Taiwan Advanced Nanotech Inc.

No.2, Aly. 12, Ln. 81, Longshou St., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C.)

Tel.:886-3-3607555

MSDS-No. : LB-61E seires

2. Hazard (s) identification

Classification of the substance or mixture :



Label elements

**GHS label elements :** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms :** GHS05, GHS07, GHS08

**Signal word :** Danger

**Hazard statements :**

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long-lasting effects.

**Precautionary statements**

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Classification system :**

**NFPA rating (scale 0-4)**

Health = 2



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Fire = 0

Reactivity = 0

**WHMIS-rating (scale 0-4)**

Health = 2

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200) :**

Toxic/ Corrosive/ Environmental hazard

**Target Organ(s) :**

May affect Nervous system (Neurotoxin).

May cause Kidney damage (Nephrotoxin).

Risk of damage to eyes.

Affects Gastrointestinal System.

**Other hazards :** Product has been observed to have sensitizing effects

**3. Composition/Data on components**

**Chemical characterization :** Mixtures

**Description:** The mixture of hazardous substance is listed below. Other nonhazardous substance concentrations are unlisted due to the trade secret of TANBead.

**Dangerous components:**

593-84-0 guanidinium thiocyanate < 45%

**4. First-aid measures**

**General information :** Symptoms of poisoning may be even occur several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation :** Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

**After eye contact :** Rinse opened eye for several minutes under running water, then consult a doctor immediately.

**After skin contact :** Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

**After swallowing :** Immediately call a doctor.

**5. Firefighting measures**

**Suitable extinguishing agents :**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires spray or alcohol resistant foam.

**Protective equipment :** Mouth respiratory protective device. Do not inhale explosion gases or combustion gases.





## 6. Accidental release measures

### **Personal precautions, protective equipment and emergency procedures :**

Wear personal protective equipment.

Avoid dust formation.

Avoid breathing dust.

Ensure adequate ventilation.

### **Measures for environmental protection :**

Prevent product from entering drains.

Dilute with plenty of water.

### **Measures for cleaning/ collecting :**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Keep in suitable, closed containers for disposal.

## 7. Handling and storage

### **Handling**

**Information for safe handling :** Keep receptacles tightly sealed.

**Information about protection against explosions and fires :** No special measures required.

### **Conditions for safe storage, including any incompatibilities**

#### **Storage :**

#### **Requirements to be met by storerooms and receptacles :**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**Information about storage in one common storage facility :** Do not store together with acids.

**Further information about storage conditions :** Keep receptacles tightly sealed.

## 8. Exposure controls and personal protection

**Additional information about design of technical systems :** No further data.

### **Personal protective equipment :**

#### **General protective and hygienic measures :**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

#### **Breathing equipment :**

In the case of dust or aerosol formation use respirator with an approved filter or effective dust mask.





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**Protection of hands :**

Protective gloves.

**Eye protection :**

Eye wash bottle with pure water.

Tightly sealed glasses.

Wear face-shield and protective suit for abnormal processing problems.

**9. Physical and chemical properties****General Information**

**Form :** Fluid

**Color :** Colorless

**Odor :** Not determined.

**Change in condition**

**Melting point/ Melting range :** Undetermined.

**Boiling point/ Boiling range :** Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gaseous) :** Not applicable.

**Auto igniting:** Product is not self-igniting.

**Danger of explosion:** Product does not present an explosion hazard.

**Upper explosion limit / Upper flammability limit :** Not determined.

**Lower explosion limit / Lower flammability limit :** Not determined.

**Vapour pressure :** Not determined.

**Relative vapour density :** Not determined.

**Relative density :** Not determined.

**Density at 20°C (68°F) :** Not determined.

**Solubility in / Miscibility with water :** Fully miscible.

**Partition coefficient (n-octanol/water) :** Not determined.

**Viscosity**

**Dynamic :** Not determined.

**Kinematic :** Not determined.

**Organic solvents :** 1.0%

**Water :** 50.0 %

**VOC content :** 0%

**pH-value at 20°C (68°F) :** 7.5-8.5

**10. Stability and reactivity**

**Reactivity :** No further relevant information available.



## **Chemical stability**

### **Thermal decomposition / conditions to be avoided :**

No decomposition if used according to specifications.

**Dangerous reactions :** No dangerous reactions known.

**Conditions to avoid :** No further information available.

### **Incompatible materials :**

Exposure to strong acid will result in the generation of toxic gases.

Exposure to bleach may result in the generation of toxic gas.

**Dangerous products of decomposition :** No dangerous decomposition products known.

## **11. Toxicological information**

### **Acute toxicity**

#### **LD/LC50 values that are relevant for classification :**

LD50 Oral : 593 mg/kg (Rat)

LD50 Dermal : 2000 mg/kg (Rabbit)

### **Primary irritant effect**

**On the skin :** Irritant to skin and mucous membranes.

**On the eye :** Irritating effect.

**Sensitization :** Sensitization possible through inhalation.

### **Additional toxicological information :**

The product shows the following dangers according to internally approved calculation methods for preparations : Harmful/ Corrosive/ Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## **12. Ecological information**

### **Toxicity**

**Aquatic toxicity :** Harmful to aquatic life with long lasting effects.

**Persistence and degradability :** Not available.

### **Behavior in environmental systems**

**Bioaccumulative potential :** Not known.

**Mobility in soil :** No further relevant information available.

### **Ecotoxicological effects**

**Remark :** Harmful to fish.

### **Additional ecological information**

**General notes :** Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Harmful to aquatic organisms.





### 13. Disposal considerations

#### Waste treatment methods

##### Recommendation :

Disposal should be in accordance with applicable regional, national and local laws and regulations.

##### Uncleaned packagings :

##### Recommendation :

Disposal must be made according to official regulations.

##### Recommended cleansing agent :

Water, if necessary with cleansing agents.

### 14. Transportation Information :

**UN number:** Not regulated as a dangerous good

**UN proper shipping name :** Not regulated as a dangerous good

**Transport hazard class(es) :** Not regulated as a dangerous good

**Packing group:** Not regulated as a dangerous good

**Environmental hazards :** Not regulated as a dangerous good

**Special precautions for user Remarks :** Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

### 15. Regulatory information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and establish relationship.

### 16. Other information

If you want further information, please contact TANBead sales representative  
(Tel: +886-3-3167568)



\*\*\*\* SAFETY DATA SHEET \*\*\*\*

1. Identification of substance

**Production details**

**Trade name : Washing Buffer 1**

**Manufacturer/Supplier :**

Taiwan Advanced Nanotech Inc.

No.2, Aly. 12, Ln. 81, Longshou St., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C.)

Tel.:886-3-3607555

**MSDS-No. :** WB1-61E sieres

2. Hazard (s) identification

**Classification of the substance or mixture :**



**Label elements**

**GHS label elements :** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms :** GHS05, GHS07, GHS08

**Signal word :** Danger

**Hazard statements :**

H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H412 Harmful to aquatic life with long-lasting effects.

**Precautionary statements**

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Classification system :**

**NFPA rating (scale 0-4)**

Health = 2

Fire = 0

Reactivity = 0

**WHMIS-rating (scale 0-4)**

Health = 2

Fire = 0

Reactivity = 0





**OSHA Hazard Overview (Criteria according to 29CFR1910.1200) :**

Toxic/ Corrosive/ Environmental hazard

**Target Organ(s) :**

May affect Nervous system (Neurotoxin).

May cause Kidney damage (Nephrotoxin).

Risk of damage to eyes.

Affects Gastrointestinal System.

**Other hazards :** Product has been observed to have sensitizing effects

**3. Composition/Data on components**

**Chemical characterization :** Mixtures

**Description:** The mixture of hazardous substance is listed below. Other nonhazardous substance concentrations are unlisted due to the trade secret of TANBead.

**Dangerous components:**

593-84-0 guanidinium thiocyanate < 30%

**4. First-aid measures**

**General information :** Symptoms of poisoning may be even occur several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation :** Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

**After eye contact :** Rinse opened eye for several minutes under running water, then consult a doctor immediately.

**After skin contact :** Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.

**After swallowing :** Immediately call a doctor.

**5. Firefighting measures**

**Suitable extinguishing agents :**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires spray or alcohol resistant foam.

**Protective equipment :** Mouth respiratory protective device. Do not inhale explosion gases or combustion gases.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures :**

Wear personal protective equipment.

Avoid dust formation.

Avoid breathing dust.

Ensure adequate ventilation.

**Measures for environmental protection :**

Prevent product from entering drains.





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Dilute with plenty of water.

**Measures for cleaning/ collecting :**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Keep in suitable, closed containers for disposal.

**7. Handling and storage**

**Handling**

**Information for safe handling :** Keep receptacles tightly sealed.

**Information about protection against explosions and fires :** No special measures required.

**Conditions for safe storage, including any incompatibilities**

**Storage :**

**Requirements to be met by storerooms and receptacles :**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**Information about storage in one common storage facility :** Do not store together with acids.

**Further information about storage conditions :** Keep receptacles tightly sealed.

**8. Exposure controls and personal protection**

**Additional information about design of technical systems :** No further data.

**Personal protective equipment :**

**General protective and hygienic measures :**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Do not eat or drink while working.

Clean skin thoroughly immediately after handling the product.

**Breathing equipment :**

In the case of dust or aerosol formation use respirator with an approved filter or effective dust mask.

**Protection of hands :**

Protective gloves.

**Eye protection :**

Eye wash bottle with pure water.

Safety glasses.

Wear face-shield and protective suit for abnormal processing problems.



## 9. Physical and chemical properties

### General Information

**Form** : Fluid

**Color** : Colorless

**Odor** : Not determined.

### Change in condition

**Melting point/ Melting range** : Undetermined.

**Boiling point/ Boiling range** : Undetermined.

**Flash point**: Not applicable.

**Flammability (solid, gaseous)** : Not applicable.

**Auto igniting**: Product is not self-igniting.

**Danger of explosion**: Product does not present an explosion hazard.

**Upper explosion limit / Upper flammability limit** : Not determined.

**Lower explosion limit / Lower flammability limit** : Not determined.

**Vapour pressure** : Not determined.

**Relative vapour density** : Not determined.

**Relative density** : Not determined.

**Density at 20°C (68°F)** : Not determined.

**Solubility in / Miscibility with water** : Fully miscible.

**Partition coefficient (n-octanol/water)** : Not determined.

### Viscosity

**Dynamic** : Not determined.

**Kinematic** : Not determined.

**Organic solvents** : 1.0%

**Water** : 45.0 %

**VOC content** : 0%

**pH-value at 20°C (68°F)** : 7.5-8.5

## 10. Stability and reactivity

**Reactivity** : No further relevant information available.

### Chemical stability

**Thermal decomposition / conditions to be avoided** :

No decomposition if used according to specifications.

**Dangerous reactions** : No dangerous reactions known.

**Conditions to avoid** : No further information available.

### Incompatible materials :

Exposure to strong acid will result in the generation of toxic gases.

Exposure to bleach may result in the generation of toxic gas.

**Dangerous products of decomposition** : No dangerous decomposition products known.







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## 11. Toxicological information

### Acute toxicity

#### LD/LC50 values that are relevant for classification :

LD50 Oral : 593 mg/kg (Rat)

LD50 Dermal : 2000 mg/kg (Rabbit)

### Primary irritant effect

**On the skin :** Irritant to skin and mucous membranes.

**On the eye :** Irritating effect.

**Sensitization :** Sensitization possible through inhalation.

### Additional toxicological information :

The product shows the following dangers according to internally approved calculation methods for preparations : Harmful/ Corrosive/ Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## 12. Ecological information

### Toxicity

**Aquatic toxicity :** Harmful to aquatic life with long lasting effects.

**Persistence and degradability :** Not available.

### Behavior in environmental systems

**Bioaccumulative potential :** Not known.

**Mobility in soil :** No further relevant information available.

### Ecotoxicological effects

**Remark :** Harmful to fish.

### Additional ecological information

**General notes :** Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Harmful to aquatic organisms.

## 13. Disposal considerations

### Waste treatment methods

#### Recommendation :

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### Uncleaned packagings :

#### Recommendation :

Disposal must be made according to official regulations.

#### Recommended cleansing agent :

Water, if necessary with cleansing agents.





**14. Transportation Information :**

**UN number :** Not regulated as a dangerous good

**UN proper shipping name :** Not regulated as a dangerous good

**Transport hazard class(es) :** Not regulated as a dangerous good

**Packing group :** Not regulated as a dangerous good

**Environmental hazards :** Not regulated as a dangerous good

**Special precautions for user Remarks :** Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

**15. Regulatory information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and establish relationship.

**16. Other information**

If you want further information, please contact TANBead sales representative  
(Tel: +886-3-3167568)



\*\*\*\* SAFETY DATA SHEET \*\*\*\*

**1. Identification of substance**

**Production details**

**Trade name : Magnetic Beads**

**Manufacturer/Supplier :**

Taiwan Advanced Nanotech Inc.

No.2, Aly. 12, Ln. 81, Longshou St., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C.)

Tel.:886-3-3607555

**MSDS-No. : B617P**

**2. Hazards Identification**

**Classification of the substance or mixture :**

The product is not classified as a hazardous substance or mixture according to the Globally Harmonized System (GHS).

**Label elements :**

**GHS label elements : Void**

**Hazard pictograms : Void**

**Signal word : Void**

**Hazard statements : Void**

**Classification system :**

**NFPA rating (scale 0-4)**

Health = 0

Fire = 0

Reactivity = 0

**WHMIS-rating (scale 0-4)**

Health = 0

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200) : NA**

**Target Organ(s) : NA or unknown**

**Other hazards :**

This mixture has not been tested to determine the overall health hazard; therefore, in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

**3. Composition/Data on components**

**Chemical characterization : Mixtures**

**Description :** The mixture of nonhazardous substance concentrations are unlisted due to the trade secret of TANBead.



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**Dangerous components :** Void

**4. First-aid measures**

**General information :** No special measure required.

**After inhalation :** Supply fresh air; consult a doctor in case of complaints.

**After eye contact :** Rinse opened eye for several minutes under running water, then consult a doctor.

**After skin contact :** Immediately wash with water and soap and rinse thoroughly.

**After swallowing :** Immediately call a doctor.

**5. Firefighting measures**

**Suitable extinguishing agents :**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires spray or alcohol resistant foam.

**Protective equipment :** Do not inhale explosion gases or combustion gases.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures :**

Ensure adequate ventilation.

**Measures for environmental protection :**

Dilute with plenty of water.

**Measures for cleaning/ collecting :**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**7. Handling and storage**

**Handling**

**Information for safe handling :** Keep receptacles tightly sealed.

**Information about protection against explosions and fires :** No special measures required.

**Conditions for safe storage, including any incompatibilities**

**Storage :**

**Requirements to be met by storerooms and receptacles :** No special measures required.

**Information about storage in one common storage facility :** Not required.

**Further information about storage conditions :** Keep receptacles tightly sealed.

**8. Exposure controls and personal protection**

**Additional information about design of technical systems :** No further data.

**Personal protective equipment :**

**General protective and hygienic measures :**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.





**Breathing equipment :**

Not required.

**Protection of hands :**

Protective gloves.

**Eye protection :**

Tightly sealed glasses.

**9. Physical and chemical properties**

**General Information**

**Form :** Suspension

**Color :** Black

**Odor :** Not determined.

**Change in condition**

**Melting point/ Melting range :** Undetermined.

**Boiling point/ Boiling range :** Undetermined.

**Flash point:** Not applicable.

**Flammability (solid, gaseous) :** Not applicable.

**Auto igniting:** Product is not self-igniting.

**Danger of explosion:** Product does not present an explosion hazard.

**Upper explosion limit / Upper flammability limit :** Not determined.

**Lower explosion limit / Lower flammability limit :** Not determined.

**Vapour pressure :** Not determined.

**Relative vapour density :** Not determined.

**Relative density :** Not determined.

**Density at 20°C (68°F) :** 1.3501 g/cm<sup>3</sup> (13.531256 lbs/gal).

**Solubility in / Miscibility with water :** Fully miscible.

**Partition coefficient (n-octanol/water) :** Not determined.

**Viscosity**

**Dynamic :** Not determined.

**Kinematic :** Not determined.

**Water :** 0%

**VOC content :** 0%

**pH-value at 20°C (68°F) :** 8~9

**10. Stability and reactivity**

**Reactivity :** No further relevant information available.

**Chemical stability**

**Thermal decomposition / conditions to be avoided :**

No decomposition if used according to specifications.



**Dangerous reactions :** Reacts with strong acids, alkalis and oxidizing agents.

**Conditions to avoid :** No further information available.

**Incompatible materials :** Oxidizing agents

**Dangerous products of decomposition :** Danger of toxic pyrolysis products.

## 11. Toxicological information

### Acute toxicity

**LD/LC50 values that are relevant for classification :** No data available.

### Primary irritant effect

**On the skin:** Irritant to skin and mucous membranes.

**On the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

### Additional toxicological information:

The product is not subject to classification according to internally calculation methods for preparations.

## 12. Ecological information

### Toxicity

**Aquatic toxicity :** Not harmful to the aquatic environment.

**Persistence and degradability :** Not available.

### Behavior in environmental systems

**Bioaccumulative potential :** Not known.

**Mobility in soil :** No further relevant information available.

### Ecotoxicological effects

**Remark :** Not available.

### Additional ecological information

**General notes :** Water hazard class 1 (Self-assessment) : slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## 13. Disposal considerations

### Waste treatment methods

#### Recommendation :

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### Uncleaned packagings :

#### Recommendation :

Disposal must be made according to official regulations.

#### Recommended cleansing agent :

Water, if necessary with cleansing agents.





#### 14. Transportation Information

**UN number** : Not regulated as a dangerous good

**UN proper shipping name** : Not regulated as a dangerous good

**Transport hazard class(es)** : Not regulated as a dangerous good

**Packing group** : Not regulated as a dangerous good

**Environmental hazards** : Not regulated as a dangerous good

**Special precautions for user Remarks** : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

#### 15. Regulatory information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and establish relationship.

#### 16. Other information

If you want further information, please contact TANBead sales representative  
(Tel: +886-3-3167568)



\*\*\*\* SAFETY DATA SHEET \*\*\*\*

**1. Identification of substance**

**Production details**

**Trade name :** Washing Buffer 2

**Manufacturer/Supplier :**

Taiwan Advanced Nanotech Inc.

No.2, Aly. 12, Ln. 81, Longshou St., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C.)

Tel.:886-3-3607555

**MSDS-No. :** WB2-61E series

**2. Hazards Identification**

**Classification of the substance or mixture :**

The product is not classified as a hazardous substance or mixture according to the Globally Harmonized System (GHS).

**Label elements :**

**GHS label elements :** Void

**Hazard pictograms :** Void

**Signal word :** Void

**Hazard statements :** Void

**Classification system :**

**NFPA rating (scale 0-4)**

Health = 0

Fire = 0

Reactivity = 0

**WHMIS-rating (scale 0-4)**

Health = 0

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200) :** NA

**Target Organ(s) :** NA or unknown

**Other hazards :**

This mixture has not been tested to determine the overall health hazard; therefore, in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

**3. Composition/Data on components**

**Chemical characterization :** Mixtures

**Description :** The mixture of nonhazardous substance concentrations are unlisted due to the trade secret of TANBead.







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**Dangerous components :** Void

**4. First-aid measures**

**General information :** No special measure required.

**After inhalation :** Supply fresh air; consult a doctor in case of complaints.

**After eye contact :** Rinse opened eye for several minutes under running water, then consult a doctor.

**After skin contact :** Immediately wash with water and soap and rinse thoroughly.

**After swallowing :** Immediately call a doctor.

**5. Firefighting measures**

**Suitable extinguishing agents :**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires spray or alcohol resistant foam.

**Protective equipment :** Do not inhale explosion gases or combustion gases.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures :**

Ensure adequate ventilation.

**Measures for environmental protection :**

Dilute with plenty of water.

**Measures for cleaning/ collecting :**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**7. Handling and storage**

**Handling**

**Information for safe handling :** Keep receptacles tightly sealed.

**Information about protection against explosions and fires :** No special measures required.

**Conditions for safe storage, including any incompatibilities**

**Storage :**

**Requirements to be met by storerooms and receptacles :** No special measures required.

**Information about storage in one common storage facility :** Not required.

**Further information about storage conditions :** Keep receptacles tightly sealed.

**8. Exposure controls and personal protection**

**Additional information about design of technical systems :** No further data.

**Personal protective equipment :**

**General protective and hygienic measures :**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.





**Breathing equipment :**

Not required.

**Protection of hands :**

Protective gloves.

**Eye protection :**

Tightly sealed glasses.

**9. Physical and chemical properties**

**General Information**

**Form :** Fluid

**Color :** Colorless

**Odor :** Not determined.

**Change in condition**

**Melting point/ Melting range :** 0°C (32°F)

**Boiling point/ Boiling range :** 100°C (212°F)

**Flash point :** Not applicable.

**Flammability (solid, gaseous) :** Not applicable.

**Auto igniting :** Product is not self-igniting.

**Danger of explosion :** Product does not present an explosion hazard.

**Upper explosion limit / Upper flammability limit :** Not determined.

**Lower explosion limit / Lower flammability limit :** Not determined.

**Vapour pressure :** Not determined.

**Relative vapour density :** Not determined.

**Relative density :** Not determined.

**Density at 20°C (68°F) :** Not determined.

**Solubility in / Miscibility with water :** Fully miscible.

**Partition coefficient (n-octanol/water) :** Not determined.

**Viscosity**

**Dynamic :** Not determined.

**Kinematic :** Not determined.

**Water :** 80%

**VOC content :** 0%

**pH-value at 20°C (68°F) :** 8.5

**10. Stability and reactivity**

**Reactivity :** No further relevant information available.

**Chemical stability**

**Thermal decomposition / conditions to be avoided :**

No decomposition if used according to specifications.



**Dangerous reactions** : Reacts with strong acids, alkalis and oxidizing agents.

**Conditions to avoid** : No further information available.

**Incompatible materials** : Oxidizing agents

**Dangerous products of decomposition** : Danger of toxic pyrolysis products.

## 11. Toxicological information

### Acute toxicity

**LD/LC50 values that are relevant for classification** : No data available.

### Primary irritant effect

**On the skin** : Irritant to skin and mucous membranes.

**On the eye** : Irritating effect.

**Sensitization** : No sensitizing effects known.

### Additional toxicological information :

The product is not subject to classification according to internally calculation methods for preparations.

## 12. Ecological information

### Toxicity

**Aquatic toxicity** : Not harmful to the aquatic environment.

**Persistence and degradability** : Not available.

### Behavior in environmental systems

**Bioaccumulative potential** : Not known.

**Mobility in soil** : No further relevant information available.

### Ecotoxicological effects

**Remark** : Not available.

### Additional ecological information

**General notes** : Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## 13. Disposal considerations

### Waste treatment methods

#### Recommendation :

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### Uncleaned packagings :

#### Recommendation :

Disposal must be made according to official regulations.





**Recommended cleansing agent :**

Water, if necessary with cleansing agents.

**14. Transportation Information:**

**UN number :** Not regulated as a dangerous good

**UN proper shipping name :** Not regulated as a dangerous good

**Transport hazard class(es) :** Not regulated as a dangerous good

**Packing group :** Not regulated as a dangerous good

**Environmental hazards :** Not regulated as a dangerous good

**Special precautions for user Remarks :** Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

**15. Regulatory information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and establish relationship.

**16. Other information**

If you want further information, please contact TANBead sales representative  
(Tel: +886-3-3167568)



\*\*\*\* SAFETY DATA SHEET \*\*\*\*

**1. Identification of substance**

**Production details**

**Trade name : Elution Buffer**

**Manufacturer/Supplier :**

Taiwan Advanced Nanotech Inc.

No.2, Aly. 12, Ln. 81, Longshou St., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C.)

Tel.:886-3-3607555

**MSDS-No. :** EB-61E series

**2. Classification of the substance or mixture :**

The product is not classified as a hazardous substance or mixture according to the Globally Harmonized System (GHS).

**Label elements :**

**GHS label elements :** Void

**Hazard pictograms :** Void

**Signal word :** Void

**Hazard statements :** Void

**Classification system :**

**NFPA rating (scale 0-4)**

Health = 0

Fire = 0

Reactivity = 0

**WHMIS-rating (scale 0-4)**

Health = 0

Fire = 0

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200) : NA**

**Target Organ(s) :** NA or unknown

**Other hazards :**

This mixture has not been tested to determine the overall health hazard; therefore, in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

**3. Composition/Data on components**

**Chemical characterization:** Mixtures

**Description :** The mixture of nonhazardous substance concentrations are unlisted due to the trade secret of TANBead.

**Dangerous components :** Void



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#### 4. First-aid measures

**General information :** No special measure required.

**After inhalation :** Supply fresh air; consult a doctor in case of complaints.

**After eye contact :** Rinse opened eye for several minutes under running water, then consult a doctor.

**After skin contact :** Generally the product does not irritate the skin.

**After swallowing :** Immediately call a doctor

#### 5. Firefighting measures

**Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires spray or alcohol resistant foam.

**Protective equipment:** Do not inhale explosion gases or combustion gases.

#### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures :**

Not required.

**Measures for environmental protection :**

Dilute with plenty of water.

**Measures for cleaning/ collecting :**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

#### 7. Handling and storage

**Handling**

**Information for safe handling :** No special measures required.

**Information about protection against explosions and fires :** No special measures required.

**Conditions for safe storage, including any incompatibilities**

**Storage :**

**Requirements to be met by storerooms and receptacles :** No special measures required.

**Information about storage in one common storage facility :** Not required.

**Further information about storage conditions :** None.

#### 8. Exposure controls and personal protection

**Control parameters**

**Components with limit values that require monitoring at the workplace :**

The product does not contains any substances with occupational exposure limit values.

**Additional information :** No further data

**Personal protective equipment**





**General protective and hygienic measures :**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

**Breathing equipment :**

Not required.

**Protection of hands :**

Protective gloves.

**Eye protection :**

Not required.

**9. Physical and chemical properties****General Information**

**Form :** Fluid

**Color :** Colorless

**Odor :** Not determined.

**Change in condition**

**Melting point/ Melting range :** 0°C (32°F)

**Boiling point/ Boiling range :** 100°C (212°F)

**Flash point :** Not applicable.

**Flammability (solid, gaseous) :** Not applicable.

**Auto igniting :** Product is not self-igniting.

**Danger of explosion :** Product does not present an explosion hazard.

**Upper explosion limit / Upper flammability limit :** Not determined.

**Lower explosion limit / Lower flammability limit :** Not determined.

**Vapour pressure :** Not determined.

**Relative vapour density :** Not determined.

**Relative density :** Not determined.

**Density at 20°C (68°F) :** Not determined.

**Solubility in / Miscibility with water :** Fully miscible.

**Partition coefficient (n-octanol/water) :** Not determined.

**Viscosity**

**Dynamic :** Not determined.

**Kinematic :** Not determined.

**Water :** 99.8%

**VOC content :** 0%

**pH-value at 20°C (68°F) :** 8.5



## 10. Stability and reactivity

**Reactivity :** No further relevant information available.

### **Chemical stability**

#### **Thermal decomposition / conditions to be avoided :**

No decomposition if used according to specifications.

**Dangerous reactions :** No dangerous reactions known.

**Conditions to avoid :** No further information available.

**Incompatible materials :** No further information available.

**Dangerous products of decomposition :** No dangerous decomposition products known.

## 11. Toxicological information

### **Acute toxicity**

**LD/LC50 values that are relevant for classification :** No data available.

### **Primary irritant effect**

**On the skin :** No irritant effect.

**On the eye :** Irritating effect.

**Sensitization :** No sensitizing effects known.

### **Additional toxicological information :**

The product is not subject to classification according to internally calculation methods for preparations.

## 12. Ecological information

### **Toxicity**

**Aquatic toxicity :** Not harmful to the aquatic environment.

**Persistence and degradability :** Not available.

### **Behavior in environmental systems**

**Bioaccumulative potential :** Not known.

**Mobility in soil :** No further relevant information available.

### **Ecotoxicological effects**

**Remark :** Not available.

### **Additional ecological information**

**General notes :** Generally not hazardous for water.

## 13. Disposal considerations

### **Waste treatment methods**

#### **Recommendation :**

Disposal should be in accordance with applicable regional, national and local laws and regulations.





**Uncleaned packagings :**

**Recommendation :**

Disposal must be made according to official regulations.

**Recommended cleansing agent :**

Water, if necessary with cleansing agents.

**14. Transportation Information:**

**UN number :** Not regulated as a dangerous good

**UN proper shipping name :** Not regulated as a dangerous good

**Transport hazard class(es) :** Not regulated as a dangerous good

**Packing group :** Not regulated as a dangerous good

**Environmental hazards :** Not regulated as a dangerous good

**Special precautions for user Remarks :** Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

**15. Regulatory information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and establish relationship.

**16. Other information**

If you want further information, please contact TANBead sales representative  
(Tel: +886-3-3167568)



\*\*\*\* SAFETY DATA SHEET \*\*\*\*

1. Identification of substance

**Production details**

**Trade name : Proteinase K Solution**

**Manufacturer/Supplier :**

Taiwan Advanced Nanotech Inc.

No.2, Aly. 12, Ln. 81, Longshou St., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C.)

Tel.:886-3-3607555

**MSDS-No. : B161**

2. Classification of the substance or mixture :



**Label elements**

**GHS label elements :** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms :** GHS07, GHS08

**Signal word :** Danger

**Hazard statements :**

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317- May cause an allergic skin reaction.

**Precautionary statements**

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P284 – [In case of inadequate ventilation] wear respiratory protection.

P304 + P340 - If Inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P342 + P311 - If experiencing respiratory symptoms: Call a poison center or doctor/physician.

**Classification system :**

**NFPA rating (scale 0-4)**

Health = 0

Fire = 1

Reactivity = 0





**WHMIS-rating (scale 0-4)**

Health = 1

Fire = 1

Reactivity = 0

**OSHA Hazard Overview (Criteria according to 29CFR1910.1200) :**

Irritant

Sensitizer

**Target Organ(s) :**

May cause Kidney damage (Nephrotoxin).

**Other hazards :** Product has been observed to have sensitizing effects.

**3. Composition/Data on components**

**Chemical characterization:** Mixtures

**Description:** The mixture of hazardous substance is listed below. Other nonhazardous substance concentrations are unlisted due to the trade secret of TANBead.

**Dangerous components :**

CAS: 39450-01-6 proteinase > 1 < 2.5%

EINECS: 254-457-8

**4. First-aid measures**

**General information :**

Take affected persons out into the fresh air. Do not leave affected person unattended.

**After inhalation :**

Supply fresh air and monitor breathing; call a physician or poison control center immediately.

**After eye contact :**

Flush eyes with water or eye wash solution immediately for 15 minutes. Immediate medical attention is required.

**After skin contact :**

Immediately wash with excess soap and water. If spilled on clothing, remove all affected clothing. Immediate medical attention is required.

**After swallowing :**

Call a physician or poison control center immediately. Only induce vomiting if recommended by medical personnel. If subject is unconscious, do not give anything by mouth. If conscious, rinse mouth with water.

**5. Firefighting measures**

**Suitable extinguishing agents :**

CO<sub>2</sub>, powder or water spray. Fight larger fires spray or alcohol resistant foam.

**Protective equipment :**

Mouth respiratory protective device. Do not inhale explosion gases or combustion gases.





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## 6. Accidental release measures

### **Personal precautions, protective equipment and emergency procedures :**

Ensure adequate ventilation.

Wear protective clothing.

### **Measures for environmental protection :**

Do not allow product to reach sewage system or any water course.

### **Measures for cleaning/ collecting :**

Ensure adequate ventilation.

Absorb liquid components with liquid-binding material.

## 7. Handling and storage

### **Handling**

#### **Information for safe handling :**

Ensure good ventilation/exhaustion at the workplace.

Store in cool, dry place in tightly closed receptacles.

#### **Information about protection against explosions and fires :**

Keep ignition sources away-Do not smoke.

#### **Conditions for safe storage, including any incompatibilities**

### **Storage**

#### **Requirements to be met by storerooms and receptacles :**

Store only in the original receptacle.

**Information about storage in one common storage facility :** Not required.

**Further information about storage conditions :** None.

## 8. Exposure controls and personal protection

### **Control parameters**

#### **Components with limit values that require monitoring at the workplace :**

The product does not contain any substances with occupational exposure limit values.

**Additional information :** No further data

### **Personal protective equipment**

#### **General protective and hygienic measures :**

The usual precautionary measures are to be adhered to when handling chemicals.

Immediately remove all soiled and contaminated clothing.

Do not inhale gases/fumes/aerosols.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin

#### **Breathing equipment :**

Tightly fitting safety goggles.

#### **Protection of hands :**

Protective gloves.





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**Eye protection :**

Not required if room is well-ventilated.

**9. Physical and chemical properties**

**General Information**

**Form :** Fluid

**Color :** Colorless

**Odor :** Not determined.

**Change in condition**

**Melting point/ Melting range :** Not applicable.

**Boiling point/ Boiling range :** Not applicable.

**Flash point :** Not applicable.

**Flammability (solid, gaseous) :** Not applicable.

**Auto igniting :** Product is not self-igniting.

**Danger of explosion :** Product does not present an explosion hazard.

**Upper explosion limit / Upper flammability limit :** Not determined.

**Lower explosion limit / Lower flammability limit :** Not determined.

**Vapour pressure :** Not determined.

**Relative vapour density :** Not determined.

**Relative density :** Not determined.

**Density at 20°C (68°F) :** 1.126 g/cm<sup>3</sup> (9.396925 lbs/gal).

**Solubility in / Miscibility with water :** Fully miscible.

**Partition coefficient (n-octanol/water) :** Not determined.

**Viscosity**

**Dynamic :** Not determined.

**Kinematic :** Not determined.

**Water :** Not determined.

**VOC content :** Not determined.

**pH-value at 20°C (68°F) :** 7.5

**10. Stability and reactivity**

**Reactivity :** No further relevant information available.

**Chemical stability**

**Thermal decomposition / conditions to be avoided :**

No decomposition if used according to specifications.

**Dangerous reactions :** No dangerous reactions known.

**Conditions to avoid :** No further information available.

**Incompatible materials :** No further information available.

**Dangerous products of decomposition :** Carbon monoxide and carbon dioxide.



## 11. Toxicological information

**Acute toxicity :** Based on available data, the classification criteria are not met.

### **Primary irritant effect**

**On the skin :** Based on available data, the classification criteria are not met.

**On the eye:** Based on available data, the classification criteria are not met.

### **Sensitization :**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

### **Additional toxicological information :**

The product is not subject to classification according to internally calculation methods for preparations.

## 12. Ecological information

### **Toxicity**

**Aquatic toxicity :** Not harmful to the aquatic environment.

**Persistence and degradability :** Not available.

### **Behavior in environmental systems**

**Bioaccumulative potential :** Not known.

**Mobility in soil :** No further relevant information available.

### **Ecotoxicological effects**

**Remark :** Not available.

### **Additional ecological information**

**General notes :** Generally not hazardous for water.

## 13. Disposal considerations

### **Waste treatment methods**

#### **Recommendation :**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Uncleaned packagings :**

#### **Recommendation :**

Disposal must be made according to official regulations.

#### **Recommended cleansing agent :**

Water, if necessary with cleansing agents.

## 14. Transportation Information

**UN number :** Not regulated as a dangerous good

**UN proper shipping name :** Not regulated as a dangerous good

**Transport hazard class(es) :** Not regulated as a dangerous good

**Packing group :** Not regulated as a dangerous good





**Environmental hazards** : Not regulated as a dangerous good

**Special precautions for user Remarks** : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

**15. Regulatory information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and establish relationship.

**16. Other information**

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(Tel: +886-3-3167568)

